

REMARKS

Claims 1, 5, 8-9, 14, 16 and 25-27 are pending.

Claims 1 and 25 have been amended to clarify that the inert or passive film layer formed on the metal surface is not inherently formed as a result of the interaction between the groups in the adhesive resin. Support for the recitation of an "inert" film can be found on page 9, line 24 of the specification. Support for the recitation of a "passive" film can be found on page 10, line 17 of the specification.

No new matter has been added by way of the above-amendment.

Issues Under 35 U.S.C. § 103(a)

Claims 1, 5, 8-9, 14, 16 and 25-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 11-086808 (hereinafter JP '808) in view of JP 09-283101 (hereinafter JP '101). Applicants respectfully traverse the rejection.

Advantages of the present invention:

The present invention was conceived as a solution to the practical problem of unsatisfactory sealing and/or protecting performance of conventional sealing material as disclosed in prior art documents, such as those cited by the Examiner, for use in a battery assembly with, in particular, non-aqueous electrolyte (See the description from line 8 on page 2 to line 20 on page 3 and the passage on page 16, lines 1-6, of the present specification).

Examiner's position:

In the outstanding Office Action, the Examiner notes Applicants' arguments for patentability set forth in the August 13, 2004 Amendment. Applicants have argued that neither JP '101 nor JP '808 teaches or fairly suggests the use of an oxidatively or

chemically surface-treated metal layer having thereon an adhesive resin comprised of the polyolefin modified by a carboxyl group or a derivative thereof. The use of a laminate having an oxidatively or chemically surface-treated metal layer provides improved adhesion to the polyolefin over laminates which bind a non-surface treated metal layer with a polyolefin.

However, the Examiner has taken the position that the maleic acid modified polyethylene of JP '101 would *itself* chemically surface treat the metal layer even though a separate chemical surface treatment step has not been performed. In other words, the Examiner is stating that the acidic function of the maleic acid groups in the polyethylene chemically modifies the metal layer. Accordingly, the Examiner has taken the position that the chemical surface treatment of the metal layer is *inherently* taught in JP '101.

Steps Applicants have taken to clarify the patentable distinctions of the present invention:

In response to the Examiner's position, Applicants have amended claim 1 to recite that the metal layer has **an inert protective or passive film** formed on it prior to the addition of the adhesive resin and that the adhesive resin layer is formed over the surface treated layer.

Furthermore, Applicants respectfully submit that the maleic acid groups in the polyethylene would **not inherently** chemically modify the metal layer of the laminate of JP '101 or JP '808 to form an inert protective film on the metal layer. Support for this fact can be found in the experimental evidence in the present specification. The relevant data of the table on page 26 is provided herein for the Examiner's convenience.

Table 1

		Adhesive Strength (N/15 mm)	
		Before Immersion	After Imm.
I.	Inventive Example		
		8.0	4.5
	1	Unpeelable*	Unpeelable
	2	Unpeelable*	Unpeelable
	3	Unpeelable*	3.3
	4	Unpeelable*	6.8
	5		
	Comparative Example		
		Unpeelable*	0 (peeled)
		Unpeelable*	0 (peeled)
	1	Unpeelable*	0 (peeled)
	2	Unpeelable*	0 (peeled)
	3	Unpeelable*	0 (peeled)
	4		
	5		

Note: * substrate destroyed

In each of the Inventive Examples 1-5, the metal layer has been surface treated prior to the addition of the adhesive resin layer. This is in contrast to the laminates of Comparative Examples 1-5 which were prepared with the adhesive resin layer bonded directly to a cleaned aluminum plate surface which has not been pretreated. As can be seen in the above-Table, the durability immersion test shows that the adhesive strength of the adhesive resin layer is much lower when the adhesive resin layer is bonded to an untreated surface. In each of the Comparative Examples which have a non-treated surface layer, there was no adhesive strength registered, whereas in the Inventive Examples 1-5, the adhesive strength was at least 3.3 N/15mm. Accordingly, there is a structural distinction between the inventive laminate and the laminate of the cited

references which do not teach a surface treatment step of the metal layer prior to addition of the maleic acid modified polyolefin.

Accordingly, the laminate of the present invention provides an unexpected technical advantage of improving the adhesion strength of the adhesive resin onto the metal layer of the laminate, whereby resistance of the laminate to interlayer separation between the metal layer and the adhesive layer due to penetration of salt molecules onto the metal layer from electrolyte, in particular, non-aqueous electrolyte, of a battery can favorably be improved. Such an advantageous effect is attained by forming an inert protective or passive film on the metal layer by an oxidative or chemical treatment of the metal layer.

The laminates of the cited references, JP '808, JP '101, are lacking such an inert or passive film on the metal layer and correspond to the laminates of Comparative Examples given in the specification of the present invention and, thus, exhibit inferior adhesion strength than that of the laminates according to the present invention. In JP '101, an interlayer separation between the adhesive layer and the metal layer was observed (Examples of JP '101). In contrast thereto, the laminate according to the present invention did not show interlayer separation but the substrate layer was destroyed (See Table 1). In JP '808, there is no suggestion as to the adhesion performance improvement as was found by the superior efforts and ingenuity of the present inventors and the laminate of JP '808 corresponds to the laminates of Comparative Examples given in the specification of the present invention.

As the MPEP directs, all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of obviousness. See MPEP § 2143.03. Since JP '808, when taken alone or in combination with JP '101, fail to teach or suggest forming an adhesive layer on a pre-formed inert or passive layer, and the advantages derived therefrom, a *prima facie* case of obviousness cannot be said to exist. As such, withdrawal of the rejection is respectfully requested.

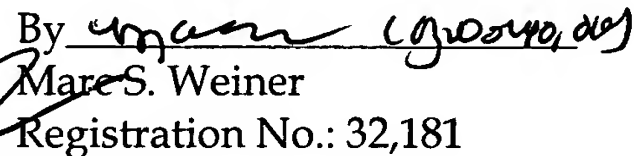
Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, Ph.D., Esq. (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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